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COMMUNITY-BASED CONSERVATION IN MONGOLIA'S RANGELANDS

Bayanzurkh soum, Mongolia

Mongolia's grasslands span 80% of the country and generate livelihoods for 200,000 families of nomadic herders. These grasslands also provide habitat for rare wildlife including argali sheep, snow leopards, and saiga, a critically endangered antelope.

Some 50% of the world's grasslands have been degraded or lost, and only 5% are currently under protection. Recognizing their importance – and the lack of global initiatives to protect these ecosystems – the Mongolian government has pledged to protect 30% of its lands by 2030. As of 2020, a total of 8.4 million acres were under protection. Unfortunately, growing demand for the country's natural resources, the industrialization of traditional grazing practices, and disturbances to pastures and permafrost from global climate change continue to undermine conservation efforts. These vital ecosystems are under threat.

In support of traditional ecosystem management practices, The Nature Conservancy (TNC) in Mongolia has worked with nomadic herder community groups since 2008 on rangeland management strategies. This includes supporting community-based organizations (CBOs) to solidify their legal rights and ensure the continuity of more sustainable traditional grazing strategies across Mongolia's grasslands.

WHAT ARE NATURAL CLIMATE SOLUTIONS?

Natural climate solutions (NCS) involve protection, management, and restoration activities that avoid greenhouse gas emissions (GHGs) and/or increase carbon storage across forests, wetlands, grasslands, and agricultural lands.

Cost-effective NCS employed globally have the potential to mitigate approximately 11 gigatons of carbon dioxide-equivalent GHGs annually, one-third of what's needed by 2030 to stabilize the climate, when paired with significant fossil fuel emissions reductions.

Local strategies, global NCS solutions

The Nature Conservancy (TNC) is tapping the expertise of on-the-ground practitioners by developing a global NCS Prototyping Network to field test and evaluate high-impact NCS strategies that can be scaled around the world.

The network helps to advance NCS implementation globally by amplifying successful strategies, identifying common challenges, and producing data to be used by practitioners, communities, policymakers, and the private sector to make smart decisions about NCS deployment.



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Unlocking the Climate Potential of Mongolia's Rangelands

Within the country's extensive grasslands is a matrixed system of carbon-rich peatlands, which can contribute to climate change mitigation via the removal and storage of GHG emissions in their soils. To date, research on the climate potential of peatlands in Mongolia has been limited. Most peatlands are seasonally grazed by livestock or managed as source of winter fodder. The conservation of these carbon-rich ecosystems is critical to supporting the livelihoods and nomadic herding culture of communities across the country.

PROJECT OVERVIEW

Since 2008, TNC Mongolia has developed a strong program of biodiversity monitoring, support for herder community land management rights, and built capacity and economic development opportunities for herding communities focused on sustainable rangeland management. Building on this history, this NCS Prototyping Network project aims to support peatland conservation activities of herding communities in Bayanzurkh soum by providing new information on peat extent and characteristics such as depth and carbon stock. This knowledge can be used by CBOs to identify opportunities for enhancing or protecting peatlands through improved livestock management approaches, ultimately supporting the long-term sustainability of nomadic herding lifestyles through conserving these valuable natural resources. Additionally, the project's maps may be used to inform national climate change mitigation estimates associated with peatlands, inform protected area management (existing and new), and support preliminary exploration of carbon market opportunities.

OBJECTIVES

- Pilot new methods for high-resolution peat mapping that leverage satellite imagery and cloud computing.
- Gather expansive field data, including soil carbon and plant community data, to improve accounting of carbon stocks and characterization of peat resources.
- Build capacity within Mongolian research community and local herder communities.

SUCCESSES TO DATE

- Completing phase one and extensive data gathering that will be used to develop map products.
- Community outreach and workshops with livestock grazing community and the scientific community in Mongolia about the need for peatlands mapping.
- Developed research partnership with Mongolian Academy of Sciences Institute of Geography and Geoecology

WHAT'S NEXT?

- With additional resources, we hope to improve our understanding of the impacts of seasonal herding patterns and intensity of livestock grazing on peatlands and their carbon storage and greenhouse gas fluxes to further inform peatland conservation actions and management. We hope work with CBOs to pilot alternative herding strategies around peatland areas to test their efficacy, and in parallel we will continue to build natural resource management and governance capacity with CBOs. We also aim to continue improving the quality of mapping by testing novel remote sensing methods such as multispectral drone imagery to identify peat areas and their condition.
- A challenge to this research program is that field work is highly weather-dependent: 8-9 months of the year the site is frozen and snow covered, making collection of soil samples impossible. As such, coordination between CBOs and other stakeholders is critical to be able to take full advantage of a short field season.

In the face of continued permafrost melting, there are early indicators that rangeland management in this region and improved grazing techniques could support maintenance of permafrost. Although not within the scope of the existing NCS Prototyping Network project, permafrost dynamics are an exciting potential future area of research.



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“Due to a previous lack of data and research on the status of peatlands, including their role, distribution, and threats they face, peatland issues are not adequately addressed in the policy documents of the Mongolian government, and no conservation measures have been taken. Therefore, policies focusing on peatlands and regulation of their use are essential for the prevention of and protection from climate change impacts and human-induced aridity, water shortages, pollution, and permafrost thaw.”

—DULAMSUREN OYUNKHOROL, MINISTER OF ENVIRONMENT AND TOURISM, MONGOLIA

PARTNERS:

Community-Based Organizations in Khovsgol aimag
Mongolian Academy of Sciences Institute of Geography and
Geoecology

TNC MONGOLIA CONTACT:

Batkhuuyag Baldangombo
b.baldangombo@tnc.org

NCS PROTOTYPING NETWORK CONTACT:

Sara Leavitt
sara.leavitt@tnc.org

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